



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,641	12/29/2000	Charles A. Milligan	00-117-DSK	9245

7590 12/01/2004

Wayne P. Bailcy  
Storage Technology Corporation  
One StorageTek Drive  
Louisville, CO 80028-4309

EXAMINER
----------

LANE, JOHN A

ART UNIT	PAPER NUMBER
----------	--------------

2188

DATE MAILED: 12/01/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/751,641

**Applicant(s)**

MILLIGAN ET AL.

**Examiner**

Jack A Lane

**Art Unit**

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

1. This Office action is responsive to the amendment filed 08/18/04. Claims 1-30 are presented for examination. Any objections or rejections made in the previous office action not specifically repeated below are withdrawn or have been overcome by applicant's response. Several messages were left for Ms. Lisa Yociss between November 16 and November 22, 2004 to discuss possible claim language to place the application in condition for allowance, however, all calls were not returned. The examiner did speak with Ms. Yociss prior to November 16, 2004, however, further discussion is necessary. The claimed "self-defining data element" of claim 22 appears to be a data structure. Applicant should consider incorporating language into claim 22 indicated the data element is stored on a computer readable storage medium. On page 17 of the specification the language "transmission-type media such a digital and analog communications links" should be deleted since this is not an acceptable means of storage.
2. Claims 3-4 and 24-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 3 and 24, the language “management information comprises a management rule” appears redundant. Independent claim 1 already recites “data management rules.”

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1 and 22 are rejected under 35 U.S.C. § 102(e) as being anticipated by Voigt et al. (Pat. No. 5,960,451).

Voigt teaches the claimed “data elements” as corresponding to the logical storage units (LUNs) (see the Summary). The claimed “data portion” of the claimed “data element” corresponds to data stored in the logical storage unit. The claimed “metadata” corresponds to data including management information such as that found in RAID management system 56. RAID management system 56 maps physical storage space to RAID-level virtual storage space. The claimed “metadata” also includes data including management rules and processing rules such as Voight’s parameters/preferences such as physical capacity, number of storage disks, allocated capacity, characteristics of the RAID, percentage to be used (col. 2, line 55 – col. 3, line 2) performance (col. 4, line 16)

Art Unit: 2188

and availability (col. 7, lines 26-42). The claimed "one or more anchor points" corresponds to places (addresses) within computer system 20 holding programs for computing available capacity (claimed analysis processes) (see col. 5, line 66 – col. 6, line 39). Alternately, the claimed "one or more anchor points" corresponds to "identification numbers" within LUNs discussed at col. 6, lines 55-58.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103 (a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103(a).

6. Claims 2-21 and 23-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Voigt et al. (5,960,451).

Voigt teaches the invention substantially as claimed as discussed above in section 5. The examiner believes most, if-not-all, dependent claim features are taught by Voigt. However, in the event a claim feature(s) is not inherent applicant should consider the claim feature(s) in light of the Official notification put forth below. For example, claim 2 recites a "management information comprises a time stamp" and claim 5 recites a "pointer to a management rule." A time stamp is generally used to identify the age of data or the last time something was changed. A pointer or address is well known to indicate the location of that which is sought after. For instance the maps discussed in Voigt are essentially addresses or pointers to physical/virtual locations.

Official notice is taken of the prior art teaching any claim feature not specifically discussed above. That is, any prior art (including that of record) teaching the more well known claim features commonly found in the dependent claims. The claim feature(s), while part of the invention, appears to be well known and it's relevance not essential to the main invention found in the independent claim(s). Thus, a detailed discussion of the well known claim feature(s) is not warranted at this time. Because time stamps are well known for maintaining information on the age of data or the last time a change was made, it would have been obvious to use time stamps with the performance parameters of Voigt to monitor and make changes as the system ages. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention.

Art Unit: 2188

7. Applicant's arguments filed 08/18/2004 have been fully considered but they are not deemed to be persuasive.

In the Remarks filed 08/18/04, applicant argues the following:

Nothing in Voight, however, teaches the LUN including metadata.

and;

Voight does not describe, teach, or suggest a data element that includes metadata within the data element.

and;

Voight does not describe, teach, or suggest storing data management information in the metadata where the data management information is for managing the data element.

and;

Voight does not describe, teach or suggest storing, within the data element, one or more anchor points.

and;

Voight does not describe, teach or suggest storing data management rules and processing rules in the metadata in the data element.

In response, applicant should reconsider the LUN arrangement having various data structures as discussed at col. 6, lines 49-62. The claimed "data element" corresponds to a data portion (data to be stored in the LUN) and metadata (management type information) used to manage the storage unit. The claimed "metadata" can correspond to data structures associated with the LUN that are passed from the administrator module 46 to the RAID management system or vis-versa. Tables or data structures including LUN types, sizes, identification numbers and available capacity are created. The claimed

Art Unit: 2188

“metadata” corresponds to information including type, size, id no.’s, available capacity etc. Information including type, size, identification, available capacity etc. is used to manage the data within the logical storage unit (LUN). The claimed “anchor points” used for analysis can also correspond to the identification numbers.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

9. A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

**Any response to this final action should be mailed to:**

**Box AF**

Under Secretary of Commerce for Intellectual Property and Director of the  
United States Patent and Trademark Office  
PO Box 1450

Alexandria, VA 22313-1450

**or faxed to:**

(703) 872-9306, (for Official communications intended for entry)

**Or:**

(703) 872-9306, (for Non-Official or Draft communications, please



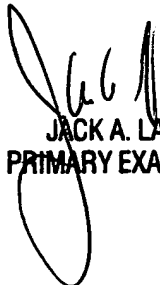
label "Non-Official" or "DRAFT")

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack A. Lane whose telephone number is 571 272-4208. The examiner can normally be reached on Mon-Fri from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571 272-4210.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571 272-2100

  
JACK A. LANE  
PRIMARY EXAMINER